

**Duke Energy Florida – Suwannee River Power Plant
Combustion Turbine Peaking Units
Project Description**

The Duke Energy Florida (DEF) Suwannee River Power Plant (SRPP) is located at 4037 River Road in Live Oak, Suwannee County, Florida. The SRPP is a nominal 345 megawatt electrical generation facility comprised of three (3) fossil fuel fired steam boilers (Unit Nos. 1, 2, and 3), three (3) Turbo Power and Marine Systems Twin-Pac simple cycle combustion turbine (SCCT) peaking units (Peaking Units CTP1, CTP2, and CTP3), and a variety of insignificant and unregulated emission units and activities. The three Twin-Pac SCCT peaking units are each comprised of two identical dual-fuel (i.e., natural gas and No. 2 fuel oil) aeroderivative combustion turbines (P1A through P3B) and one common electrical generator for a total of six (6) SCCTs and three (3) electrical generators.

Operation of the SRPP is presently authorized by Florida Department of Environmental Protection (FDEP) Title V Air Operation Permit No. 1210003-010-AV issued with an effective date of January 1, 2015 and an expiration date of December 31, 2019.

DEF plans to permanently cease operation of the three steam boilers. As a result, DEF anticipates the need to increase annual operating hours for the three peaking units to replace power previously generated by the steam boilers as well as to provide voltage stabilization for the electric grid. Specific Condition B.1 of Title V Air Operation Permit No. 1210003-010-AV limits operation of the SCCTs to no more than 1,500 hours per year (hr/yr) for each of the six SCCTs. As required by Condition B.1, each SCCT may operate up to 1,500 hr/yr on either natural gas or No. 2 fuel oil, or any combination of fuels as long as the total annual operating hours do not exceed 1,500 hr/yr for each SCCT.

To accommodate an increase in authorized operating hours for the SRPP peaking units, DEF requests a NO_x emission cap of 633 tons per year (tpy) for the six SCCT peaking units. Based on NO_x emission factors of 0.190 lb/10⁶ Btu (for natural gas) and 0.215 lb/10⁶ Btu (for fuel oil), the requested NO_x emission cap will allow each SCCT to operate for up to 3,012 hr/yr on natural gas, or up to 1,313 hr/yr on natural gas and 1,500 hr/yr on No.2 fuel oil, or any combination of fuels

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as long as the NOx emission cap is not exceeded and the total annual operating hours for each SCCT do not exceed do not exceed 1,500 hr/yr when firing No. 2 fuel oil.

DEF is not requesting any changes to current Title V permit requirements with respect to No. 2 fuel oil firing. In addition, there will be no changes to currently authorized maximum hourly heat input and fuel consumption rates, or fuel heating values and sulfur contents.